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09/762,127	02/02/2001	Michihiro Nagaishi	P5275B	1411

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EXAMINER
CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,127	NAGAISHI ET AL.	
	Examiner	Art Unit	
	Chongshan Chen	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-66 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-66 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legh-Smith et al. ["Legh-Smith", 6,178,419 B1].

As per claim 1, Legh-Smith discloses an information categorizing method comprising a step of acquiring a plurality of search results searched by a search service, a step of performing a clustering process on the search results, and outputting the clustering result from the clustering module (Legh-Smith, Fig. 3, step 316, "categorize", col. 5, lines 45-60, col. 6, lines 46-48). Legh-Smith does not explicitly disclosing a clustering module. However, it is obvious Legh-Smith's system has a clustering module which performs the categorizing step.

As per claim 2, Legh-Smith teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing a step of converting, through a converter module, the search result searched by the search service into a format that is processed by the clustering module. However, it is obvious Legh-Smith's search engine has a converter module which format the search result so that the information can be passed to the clustering module for categorizing (Legh-Smith, Fig. 3).

As per claim 3, Legh-Smith teaches all the claimed subject matters as discussed in claim 2, and further discloses the system has a plurality of search engines (Legh-Smith, col. 5, lines 15-

20). It is obvious the converter module is arranged correspondingly to each of a plurality of search services when the clustering process is performed correspondingly to the plurality of search services (Legh-Smith, Fig. 3).

As per claim 4, Legh-Smith teaches all the claimed subject matters as discussed in claim 3, and further discloses a search process is performed using one search service selected from the plurality of search services and the clustering process is performed on the search result searched by the selected search service (Legh-Smith, col. 9, lines 23-37).

As per claim 5, Legh-Smith teaches all the claimed subject matters as discussed in claim 3, and further discloses search processes are performed in parallel using at least two search services of the plurality of search services, respective search results are collected, and the clustering process is performed on the collected search results (Legh-Smith, col. 5, lines 15-60).

As per claim 6, Legh-Smith teaches all the claimed subject matters as discussed in claim 3, and further discloses search processes are performed in parallel using at least two search services of the plurality of search services, and the clustering process is individually performed on the search results (Legh-Smith, col. 9, lines 23-37).

As per claim 7, Legh-Smith teaches all the claimed subject matters as discussed in claim 1, and further discloses information to be clustered is at least one of the title of a document, a URL address, an update date, and a file size of an individual search result (Legh-Smith, col. 5, lines 45-49).

As per claim 8, Legh-Smith teaches all the claimed subject matters as discussed in claim 1, and further discloses the order of cluster of the clustering result is rearranged using a score indicating the degree of match between the clustering result and a search request for each

document and the clustering result with the cluster order thereof rearranged is then output (Legh-Smith, col. 6, lines 2-54).

As per claim 9, Legh-Smith teaches all the claimed subject matters as discussed in claim 8, and further discloses the rearranging process of the cluster order comprises a step of calculating the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score, and a step of rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 10, Legh-Smith teaches all the claimed subject matters as discussed in claim 8, and further discloses the rearranging process of the cluster order comprises a step of determining the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score, and a step of rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 11, Legh-Smith teaches all the claimed subject matters as discussed in claim 8, and further discloses the rearranging process of the cluster order comprises a step of determining a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score, and a step of rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 12, Legh-Smith teaches all the claimed subject matters as discussed in claim 9, and further discloses the cluster score determining step for rearranging the cluster order is individually performed correspondingly to the plurality of search services when the clustering

process is performed correspondingly to the search results provided by the plurality of search services (Legh-Smith, col. 5, lines 15-60).

As per claim 13, Legh-Smith teaches all the claimed subject matters as discussed in claim 8, and further discloses the clustering process is performed based on a feature, and wherein the title of each document is detected and a word characteristic of and contained in the title is extracted as the feature (Legh-Smith, col. 6, lines 8-44).

As per claim 14, Legh-Smith teaches all the claimed subject matters as discussed in claim 8, and further discloses the manner of outputting the clustering result with the cluster order rearranged comprises displaying the clusters in the order of the magnitude of scores from a high score to a low score and wherein when there are clusters having the same cluster score, one of the clusters having a larger number of documents there within is positioned higher in the cluster order (Legh-Smith, col. 6, lines 24-54).

As per claim 15, Legh-Smith teaches all the claimed subject matters as discussed in claim 1, and further discloses generating a clustering result summary table indicating the summary of the clustering results based on the clustering result, and a step of outputting the clustering result summary table together with the clustering result (Legh-Smith, Fig. 4, col. 6, lines 24-54).

As per claim 16, Legh-Smith teaches all the claimed subject matters as discussed in claim 15, and further discloses the clustering result summary table includes a cluster name of each cluster which is obtained through the clustering process (Legh-Smith, Fig. 4, col. 6, lines 24-44).

As per claim 17, Legh-Smith teaches all the claimed subject matters as discussed in claim 16, and further discloses the clustering result is mutually linked with the clustering result summary table, wherein when a cluster name portion of the clustering result summary table is

designated, the corresponding cluster portion of the clustering result is displayed, and wherein when one cluster portion of a clustering result is designated, the clustering result summary table is displayed (Legh-Smith, Fig. 4, col. 6, lines 8-54).

As per claim 18, Legh-Smith teaches all the claimed subject matters as discussed in claim 17, except for explicitly disclosing the head portion of an outline surrounding the cluster or the last line in the outline of the cluster present immediately prior to the first cluster is displayed on the top of a screen. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display the head portion of an outline surrounding the cluster or the last line in the outline of the cluster present immediately prior to the first cluster on the top of a screen because it is conventional way of displaying that displays the head portion on the top of a screen first which will save time for the user to find the head portion.

As per claim 19, Legh-Smith teaches all the claimed subject matters as discussed in claim 18, except for explicitly disclosing the clustering result summary table is displayed with the head portion thereof appearing first on the screen. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display the clustering result summary table with the head portion first on the screen in order to save the user time to find the head portion.

As per claim 20, Legh-Smith teaches all the claimed subject matters as discussed in claim 16, and further discloses wherein the arrangement order of clusters forming the clustering result summary table agrees with the arrangement order of the clusters in the clustering result (Legh-Smith, Fig. 4, col. 6, lines 8-54).

As per claim 21, Legh-Smith teaches all the claimed subject matters as discussed in claim 16, except for explicitly disclosing the manner of displaying the cluster names is changed in the clustering result summary table depending on the importance of each cluster in response to the clustering result. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rank the summary table in order to display the most important cluster name first to save the user time.

As per claim 22, Legh-Smith teaches all the claimed subject matters as discussed in claim 16, except for explicitly disclosing when a plurality of documents to be clustered are the ones which have been searched using a keyword input by a user, the manner of displaying the cluster names containing the keyword input by the user is different in the clustering result summary table from the other cluster names. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display the cluster names containing the keyword input by the user is different in the clustering result summary table from the other cluster names in order to save the user time by just displaying the cluster part that the user is searching for.

As per claim 23, Legh-Smith discloses an information categorizing apparatus acquiring a plurality of search results searched by a search service, performing a clustering process on the search results, and outputting the clustering result (Legh-Smith, Fig. 3, step 316, "categorize", col. 5, lines 45-60, col. 6, lines 46-48). Legh-Smith does not explicitly disclosing a clustering module. However, it is obvious Legh-Smith's system has a clustering module which performs the categorizing step.

As per claim 24, Legh-Smith teaches all the claimed subject matters as discussed in claim 23, except for explicitly disclosing a step of converting, through a converter module, the search

result searched by the search service into a format that is processed by the clustering module. However, it is obvious Legh-Smith's search engine has a converter module which format the search result so that the information can be categorizing (Legh-Smith, Fig. 3).

As per claim 25, Legh-Smith teaches all the claimed subject matters as discussed in claim 23, and further discloses a cluster order setting module which rearranges the order of cluster of the clustering result using a score indicating the degree of match between the clustering result and a search request for each document and outputs the clustering result with the cluster order thereof rearranged (Legh-Smith, col. 6, lines 2-54).

As per claim 26, Legh-Smith teaches all the claimed subject matters as discussed in claim 23, and further discloses a summary table generator unit for generating a clustering result summary table indicating the summary of the clustering results based on the clustering result, and a display control unit for outputting the clustering result summary table together with the clustering result (Legh-Smith, Fig. 4, col. 6, lines 24-54).

As per claim 27, Legh-Smith discloses a storage medium storing an information categorizing software program in which a clustering module performs a clustering process on a plurality of search results that have been searched by a search service in response to a search request of a user, and outputs the clustering result, the information categorizing software program comprising:

a step of acquiring the search result from the search service, and a step of performing the clustering process on the acquired search result and a step of outputting the clustering result (Legh-Smith, Fig. 3, step 316, "categorize", col. 5, lines 45-60, col. 6, lines 46-48). Legh-Smith

does not explicitly disclosing a clustering module. However, it is obvious Legh-Smith's system has a clustering module which performs the categorizing step.

As per claim 28, Legh-Smith teaches all the claimed subject matters as discussed in claim 27, and further discloses the step of performing the clustering process is performed subsequent to a step of converting the search result searched by the search service into a format that is processed by the clustering module (Legh-Smith, Fig. 3).

As per claim 29, Legh-Smith teaches all the claimed subject matters as discussed in claim 27, and further discloses rearranging the order of cluster of the clustering result using a score indicating the degree of match between the clustering result and a search request for each document and a step of outputting the clustering result with the cluster order thereof rearranged (Legh-Smith, col. 6, lines 2-54).

As per claim 30, Legh-Smith teaches all the claimed subject matters as discussed in claim 27, and further discloses generating a clustering result summary table indicating the summary of the clustering results based on the clustering result, and a step of outputting the clustering result summary table together with the clustering result (Legh-Smith, Fig. 4, col. 6, lines 24-54).

As per claim 31, Legh-Smith discloses a method for categorizing digital information, comprising the steps of:

acquiring at least one group of a plurality of digital items from at least one search of a database or network (Legh-Smith, Fig. 3, step 306, "searches");

extracting from each item in at least one group of a plurality of digital items selected cluster-indexing information comprising at least one of title, URL address, update date, and file size (Legh-Smith, Fig. 3, step 312, "combine URLs");

clustering the plurality of digital items in at least one group according to each of the selected cluster-indexing information (Legh-Smith, Fig. 3, step 316, "categorize"); and

outputting each cluster of digital items as a cluster result (Legh-Smith, col. 6, lines 45-49).

As per claim 32, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, except for explicitly disclosing converting each of the acquired digital items into a common format before performing the clustering. However, it is obvious Legh-Smith's search engine has a converter module which format the search result so that the information can be passed to clustering module for categorizing (Legh-Smith, Fig. 3).

As per claim 33, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses the at least one group of a plurality of digital items is acquired by selecting only one such group from a plurality of groups, each group being the result of an independent search, and wherein the clustering is performed on the selected one group (Legh-Smith, col. 9, lines 23-37).

As per claim 34, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses the at least one group of a plurality of digital items acquired comprises a plurality of such groups, each group being the result of an independent search performed in parallel with one another, and wherein the clustering is performed on the collective search results (Legh-Smith, col. 5, lines 15-60).

As per claim 35, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses the at least one group of a plurality of digital items acquired comprises a plurality of such groups, each group being the result of an independent search performed in

parallel with one another, and wherein the clustering is individually performed on the search results (Legh-Smith, col. 9, lines 23-37).

As per claim 36, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses when a plurality of clusters are formed, the clustering comprises rearranging the order of the clusters based on individual cluster scores, each of which indicates the degree of match between the digital items in that cluster and a corresponding search query, and wherein the outputting comprises outputting the clusters in their rearranged order (Legh-Smith, col. 6, lines 2-54).

As per claim 37, Legh-Smith teaches all the claimed subject matters as discussed in claim 36, and further discloses calculating a value for each digital item in each cluster indicating the degree of match between that item and the corresponding search query, and calculating for each cluster the average of the values of each digital item in that cluster to generate the score for that cluster, and rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 38, Legh-Smith teaches all the claimed subject matters as discussed in claim 36, and further discloses calculating a value for each digital item in each cluster indicating the degree of match between that item and the corresponding search query, determining the maximum value in each cluster, assigning the maximum value of each cluster as the score for that cluster, and rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 39, Legh-Smith teaches all the claimed subject matters as discussed in claim 36, and further discloses calculating a value for each digital item in each cluster indicating the degree of match between that item and the corresponding search query, determining the middle

or substantially middle value in magnitude in each cluster, assigning the middle or substantially middle value in each cluster as the score for that cluster, and rearranging the cluster order using the cluster scores (Legh-Smith, col. 6, lines 2-54).

As per claim 40, Legh-Smith teaches all the claimed subject matters as discussed in claim 36, and further discloses the at least one group of a plurality of digital items acquired comprises a plurality of such groups, each group being the result of an independent search performed in parallel with one another, and wherein the clustering and the rearranging of cluster order is individually performed on the search results (Legh-Smith, col. 9, lines 23-37).

As per claim 41, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses the title of each digital item in at least one group of a plurality of digital items is extracted, each title being defined by selected characters in the corresponding digital item, the selected characters being identified by one of location, size and a fixed number of words in from a designated beginning of the digital item, and wherein the identified selected characters are extracted and clustering is performed based on the selected characters extracted (Legh-Smith, col. 10, lines 3-63).

As per claim 42, Legh-Smith teaches all the claimed subject matters as discussed in claim 36, and further discloses the outputting of the clusters in rearranged order comprises displaying the clusters in the order of score magnitude from a high score to a low score, with clusters having the same score being displayed in the order of item number from a larger number to a smaller number (Legh-Smith, col. 6, lines 24-54).

As per claim 43, Legh-Smith teaches all the claimed subject matters as discussed in claim 31, and further discloses generating a clustering result summary table summarizing the clustering

result, and wherein the outputting comprises outputting the clustering result summary table together with the cluster result (Legh-Smith, Fig. 4, col. 6, lines 24-54).

As per claim 44, Legh-Smith teaches all the claimed subject matters as discussed in claim 43, and further discloses the clustering result summary table includes a cluster name of each cluster which is obtained through the clustering (Legh-Smith, Fig. 4, col. 6, lines 24-44).

As per claim 45, Legh-Smith teaches all the claimed subject matters as discussed in claim 44, and further discloses the cluster result is mutually linked with the clustering result summary table, wherein, when a cluster name portion of the clustering result summary table is designated, the corresponding portion of the cluster result is displayed, and wherein when one portion of a cluster result is designated, the clustering result summary table is displayed (Legh-Smith, Fig. 4, col. 6, lines 8-54).

As per claim 46, Smith teaches all the claimed subject matters as discussed in claim 43, and further discloses the manner of displaying the cluster names in the clustering result summary table is based on the importance of each cluster in response to the cluster result (Legh-Smith, col. 6, lines 24-54).

As per claim 47, Legh-Smith discloses an information categorizing apparatus comprising:

acquire at least one group of a plurality of digital items from at least one search of a database or network (Legh-Smith, Fig. 3, step 316, "search");

extract from each item in at least one group of a plurality of digital items selected cluster-indexing information comprising at least one of title, URL address, update date, and file size (Legh-Smith, Fig. 3, step 312, "combine URLs");

cluster the plurality of digital items in at least one group according to each of the selected cluster-indexing information, and output each cluster of digital items as a cluster result (Legh-Smith, step 316, "categorize"). Legh-Smith does not explicitly disclosing a clustering module. However, it is obvious Legh-Smith's system has a clustering module which performs the categorizing step.

As per claim 48, Legh-Smith teaches all the claimed subject matters as discussed in claim 47, except for explicitly disclosing a converter module that converts each of the acquired digital items into a common format that is processed by the clustering module. However, it is obvious Legh-Smith's search engine has a converter module which format the search result so that the information can be passed to the clustering module for categorizing (Legh-Smith, Fig. 3).

As per claim 49, Legh-Smith teaches all the claimed subject matters as discussed in claim 47, and further discloses a cluster order setting module configured to rearranging, when a plurality of clusters are formed, the order of the clusters based on individual cluster scores, each of which indicates the degree of match between the digital items in that cluster and a corresponding search query, and wherein the clustering module outputs the clusters in their rearranged order (Legh-Smith, col. 6, lines 2-54).

As per claim 50, Legh-Smith teaches all the claimed subject matters as discussed in claim 47, and further discloses a summary table generator unit for generating a clustering result summary table summarizes the clustering result; and a display control unit for outputting the clustering result summary table together with the clustering result (Legh-Smith, Fig. 4, col. 6, lines 24-54).

Claims 51-66 are rejected on grounds corresponding to the reasons given above for claims 31-46.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (703) 305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

CC
February 7, 2003

SHAHID AL ALAM
PATENT EXAMINER